



Figure 17. RNA-directed heterochromatin formation in *Schizosaccharomyces pombe*. Complementary dsRNA transcripts at pericentric regions, produced by either transcription of both strands or the folding back of inverted repeat transcripts, result in the generation of siRNAs through the action of Dicer. Incorporation of the siRNAs into the RITS complex through binding with the Argonaute protein (Ago1) activates the complex for targeting to complementary DNA or nascent RNA. The complex attracts Clr4 and the CLRC complex, which transduces histone H3K9me2. The modification-specific binder, Swi6, binds to these modified histones, facilitating the extension of a repressive chromatin domain. The action of RdRP amplifies the levels of siRNAs by using existing siRNAs as primers, reinforcing the targeting capacity of the RITS complex to specific regions of DNA.